

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (currently amended) The digital filter of claim ~~5~~ 9, wherein each filter coefficient value represents a dispersion compensation value associated with the optical link.
8. (canceled)
9. (currently amended) A digital filter comprising:
one or more functional units, each functional unit being associated with a lookup table
of filter coefficient values, each functional unit to process an input data stream using the filter
coefficient values in the lookup table and to generate one or more output data streams for
transmission on an optical link; and
wherein the lookup table is a multi-port memory having a plurality of multi-bit read ports, each
read port storing a filter coefficient value;
wherein each functional unit further comprises:

a linear adder tree to process a portion of the input data stream, the linear adder tree including a plurality of adders, each adder having an input for receiving one of a first input sample value and a second input sample value, and an output for providing a partial sum;

~~The digital filter of claim 8,~~ and further comprising:

a final adder having a first input for receiving a final partial sum from a last one of the plurality of adders in the linear adder tree, a second input for receiving a filter coefficient value from the lookup table, and an output for providing a final sum.

10. (canceled)

11. (canceled)

12. (canceled)

13. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)